

ABSTRACT

A method and system of transforming a product development process to reduce time in bringing a product to market through high throughput experimentation and advanced statistics and informatics, to transform the product development to a level of higher correlation with engine tests, and to develop better commercial products. This is achieved by modeling in Silico a plurality of component molecular models; deriving in Silico molecular characteristics (descriptors) for each of the plurality of compiled molecular models; creating at least one combinatorial library database record for each of the formulations, the at least one record having a plurality fields for storing information about compositional characteristics; receiving specification requirements for a lubricating oil composition; selecting from a database entries corresponding to compositions having specifications comparable to the received specification requirements; formulating a new lubricating oil composition to comply with received specification requirements; testing the new lubricant oil for compliance with received specification requirements; repeating the selecting, formulating, and testing steps until compliance with received specification requirements is achieved; and correlating the new lubricating oil composition to actual engine performance.